

# Work Order ID 76446

**\*76446\***

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November-14-11 2:28:46 PM

Item ID: D205-634-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Replacement Skidtube

Stop **\*NS2\***

Start Date: 14/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan: M.L.J

Date: 11/11/14

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D2580-041

Rev.E

100

0.00

**\*100\***

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

CHG 005 N/A

110

0.00

**\*110\***

BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

1 Ø SAD 12-01-10

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

November-14-11 2:28:46 PM

**Item ID:** D205-634-041

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

**Revision ID:**

**Item Name:** Replacement Skidtube

Stop \*NS2\*

**Start Date:** 14/11/2011 **Start Qty:** 1.00

**\* 1 \***

**Cust Item ID:**

**Required Date:** 30/11/2011      **Req'd Qty:** 1.00

**\* 1 \***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description                      | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 120                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*120*</b>                   |   |                      |         |        |              |               |               |                  |                |
| Skidtubes                      |   |                      |         |        |              |               |               |                  |                |
| Skidtubes                      | Memo  | 0.00                 |         |        |              |               |               |                  |                |
|                                | 1- Deburr ends and remove bending marks       |                      |         |        |              |               |               |                  |                |
|                                | 2- Prepare tube for welding as per QSI 004    |                      |         |        |              |               |               |                  |                |
|                                |   |                      |         |        |              |               |               |                  |                |
| 130                            | QC5- Inspect part completeness to step on W/O | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             |   |                      |         |        |              |               |               |                  |                |
| Quality Control                | Memo  | 0.00                 |         |        |              |               |               |                  |                |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
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| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

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Item ID: D205-634-041

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**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: Replacement Skidtube

Stop **\*NS2\***

Start Date: 14/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

140

0.00

**\*140\***

Skidtubes

Skidtubes

**Memo**

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004  
A/R Aluminum Rod *ML19712**BE 12-V-31*

2-Grind welds on step as per Dwg D2580

3-Weld spacers as per dwg D2580 *N/A*3- \*\*\* ~~N/A~~ \*\*\* Insert D4202-1 spacer, swage as per QSI002 and trim/ grind  
flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2  
x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",  
adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

*① CF 12-2-1*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
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| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

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Item ID: D205-634-041

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 14/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 150                            | QC10- Inspect visual per QSI004- ground welds  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*150*</b>                   |  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |
| 160                            | QC5- Inspect part completeness to step on W/O  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*160*</b>                   |  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |
| 170                            | Pressure Wash per QSI005 4.3   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*170*</b>                   |  |                      |         |        |              |               |               |                  |                |
| HandFinish                     | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Hand Finishing                 | Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution. |                      |         |        |              |               |               |                  |                |

IX 12/02/02

# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



**Work Order ID 76446****\*76446\***

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November-14-11 2:28:46 PM

Item ID: D205-634-041

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 14/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID               | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 180  | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum                                      | 0.00                 |         |        |              |               |               |                  |                |
| <b>*180*</b><br>Powdercoat<br>Powder Coating | <b>Memo</b><br>START TIME: 11:20<br>OVEN TEMPERATURE: 320°F<br>FINISH TIME: 11:50 | 0.00                 |         |        |              |               |               |                  | IXY m-12/02/02 |
| 190  | QC3- Inspect Part Finish  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*190*</b><br>QC<br>Quality Control        | <b>Memo</b>   | 0.00                 |         |        |              |               |               |                  | 1 d M 12/02/03 |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 76446****\*76446\***

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November-14-11 2:28:46 PM

Item ID: D205-634-041

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 14/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 200                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*200*</b>                   |   |                      |         |        |              |               |               |                  |                |
| HandFinish                     | <b>Memo</b>   | -0.00                |         |        |              |               |               |                  |                |
| Hand Finishing                 | 1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of<br>Sikaflex on insert holes before installing wearplates<br>A/R Sikaflex-291 <u>11/19/08</u><br>Sikaflex expire date: <u>12/06/08</u> |                      |         |        |              |               |               |                  |                |
|                                | 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as<br>per Dwg D2580   |                      |         |        |              |               |               |                  |                |
|                                | 3-Inspect for foreign object per QSI 024  |                      |         |        |              |               |               |                  |                |
|                                | 4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with<br>Sikaflex. Clean excess adhesive<br>A/R Sikaflex-291 <u>11/19/08</u><br>Sikaflex expire date: <u>12/06/08</u>                        |                      |         |        |              |               |               |                  |                |
|                                | 5-Wing Walk as per Dwg D2580 and QSI 005 4.4<br>Batch: <u>11120125</u>  |                      |         |        |              |               |               |                  |                |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
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| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 76446****\*76446\***

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Item ID: D205-634-041

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**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 14/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 210                            | QC5- Inspect part completeness to step on W/O   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*210*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | <b>Memo</b>   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                | Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024 |                      |         |        |              |               |               |                  |                |
| 220                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*220*</b>                   | Packaging   |                      |         |        |              |               |               |                  |                |
| Packaging                      | <b>Memo</b>   | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      | Identify and pack for shipping as per PPPD205-634-041   |                      |         |        |              |               |               |                  |                |
|                                | Location: _____   |                      |         |        |              |               |               |                  |                |
|                                | PPP Rev: _____  |                      |         |        |              |               |               |                  |                |
| 230                            | QC21- Final Inspection - Work Order Release   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*230*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | <b>Memo</b>   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |

S 12/02/06

PPD 78058

12/2/7

12/2/8

me  
12-02-07

# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

November-14-11 2:28:50 PM

Page 1

Work Order ID: 76446

\*76446\*

Parent Item: D205-634-041

\*D205-634-041\*

Parent Item Name: Replacement Skidtube

Start Date: 14/11/2011

Required Date: 30/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
KJ IPP Rev P 10.02.19  
per PAR09-043 EC verified by:DD  
IPP Rev. O 06.02.28 Added paperwork EC  
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
10.12.01 as per chg003 DD verf:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D4202-1                         |                        | Manufactured  | No          |                     |                  | 140             | Each               | 492.0000       | 20          | 20           |               |                |        |

\*D4202-1\*

Spacer

\*\*

| Location    | Loc Qty | Loc Code |
|-------------|---------|----------|
| LG002 77729 | 492     |          |
| 66929       | 106     |          |
| 67129       | 196     |          |
| 67308       | 1       |          |
| 67430       | 140     |          |
| 72639       | 49      |          |

(20) CF 12-2-1

D2580-1 Manufactured No

110 Each 5.0000 1

\*D2580-1\*

205 Skidtube bent detail

\*\*

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG       | 3       |          |
| 72965    | 1       |          |
| 75282    | 2       |          |
| ST046    | 2       |          |
| 75284    | 2       |          |

SAD 12-01-30

777281

(1)

# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

November-14-11 2:28:50 PM

Work Order ID: 76446

**\*76446\***

Parent Item: D205-634-041

**\*D205-634-041\***

Parent Item Name: Replacement Skidtube

Start Date: 14/11/2011

Required Date: 30/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2576-3 Manufactured No

140 Each 110.0000 1 1

**\*D2576-3\***

\*\*

Step (maching detail)

*BE 12-01-31*

Location

Loc Qty

Loc Code

LG

110

66156

10

70883

50

74136

50

D2855 Manufactured No

200 Each 10.0000 1 1

**\*D2855\***

\*\*

Cap

*375074 (x1) M 12/02/07*

Location

Loc Qty

Loc Code

FP007

10

65519

2

65569

8

AN3-5A Purchased No

200 Each 912.0000 2 2

**\*AN3-5A\***

\*\*

Bolt

*M 12/02/07*

Location

Loc Qty

Loc Code

ST350

912

115371

46

117423

366

118626

300

119355

200

AN960JD10L NAS1149D0332J Purchased No

200 Each 0.0000 2 2

**\*AN960.ID10I \***

\*\*

Washer

*M1119042 (x2) M 12/02/07*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

November-14-11 2:28:50 PM

Work Order ID: 76446

\*76446\*

Parent Item: D205-634-041

\*D205-634-041\*

Parent Item Name: Replacement Skidtube

Start Date: 14/11/2011

Required Date: 30/11/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

1,985.000

50

50

\*AI S7-1032-130\* ¥

\*\*

M119084 (x50) all 12/02/07

Insert ALS4-1032-130

Location

Loc Qty

Loc Code

ST281

113

117717

27

118966

86

ST282

1872

119530

1872

AN3C4A

Purchased

No

200

Each

2,151.000

50

50

\*AN3C4A\*

\*\*

M119749 (x50) all 12/02/07

BOLT

Location

Loc Qty

Loc Code

ST350

2151

117313

2

117688

5

117872

22

118112

16

118451

2

118706

142

118838

962

119328

1000

AN960C10L

NAS1149C0332

Purchased

No

200

Each

0.0000

50

50

\*AN960C10I \* ¥

\*\*

M119736 (x50) all 12/02/07

washer

# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

November-14-11 2:28:50 PM

Work Order ID: 76446

**\*76446\***

Parent Item: D205-634-041

**\*D205-634-041\***

Parent Item Name: Replacement Skidtube

Start Date: 14/11/2011

Required Date: 30/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-13

Manufactured No

200

Each

30.0000

1

1

**\*D3566-13\***

Gasket

**\*\***

B76947 (x1) M 12/02/07

Location

Loc Qty

Loc Code

FP

29

73322

29

FP014

1

68341

1

D3566-5

Manufactured No

200

Each

30.0000

1

1

**\*D3566-5\***

Gasket

**\*\***

B76945 (x1) M 12/02/07

Location

Loc Qty

Loc Code

FP002

30

74387

8

75069

22

D3566-1

Manufactured No

200

Each

33.0000

2

2

**\*D3566-1\***

Gasket

**\*\***

B76942 (x2) M 12/02/07

Location

Loc Qty

Loc Code

FP002

31

73303

5

74518

26

FP015

2

68924

2

D3564-11

Manufactured No

200

Each

5.0000

1

1

**\*D3564-11\***

Wearshoe

**\*\***

B77614 (x1) M 12/02/07

Location

Loc Qty

Loc Code

FP019

5

73146

5

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR: Yes No** **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Picklist Print**

November-14-11 2:28:50 PM

Work Order ID: 76446

**\*76446\***

Parent Item: D205-634-041

**\*D205-634-041\***

Parent Item Name: Replacement Skidtube

Start Date: 14/11/2011

Required Date: 30/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-13

Manufactured No

200

Each

17.0000

1

1

**\*D3564-13\***

Wearshoe

**\*\***

B75045(x1) MU 12/02/03

LocationLoc QtyLoc Code

FP001

16

73323

16

FP017

1

71594

1

D3564-9

Manufactured No

200

Each

16.0000

1

1

**\*D3564-9\***

Wearshoe

**\*\***

B77613(x1) MU 12/02/03

LocationLoc QtyLoc Code

FP

11

73345

11

FP019

5

67590

4

69943

1

D3564-5

Manufactured No

200

Each

22.0000

1

1

**\*D3564-5\***

Wearshoe

**\*\***

B76269(x1) MU 12/02/03

LocationLoc QtyLoc Code

FG

2

34806

2

FP001

12

74543

12

FP19

8

73330

8

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR: Yes No** **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

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November-14-11 2:28:50 PM

Work Order ID: 76446

**\*76446\***

Parent Item: D205-634-041

**\*D205-634-041\***

Parent Item Name: Replacement Skidtube

Start Date: 14/11/2011

Required Date: 30/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

200

Each

736.0000

16

16

**\*D2594-3\***

O-Ring, 205 Skidtube

\*\*

12/02/03

Location

Loc Qty

Loc Code

FP004

198

73490

198

FP-A

538

65518

41

66952

199

73490

298

x16

D2594-1

Manufactured No

200

Each

352.0000

16

16

**\*D2594-1\***

Plug, 205 Skidtube

\*\*

B 78590 (x16) 12/02/03

Location

Loc Qty

Loc Code

FP

352

73401

352

# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

| LIST OF MATERIALS |             |             |             |   |                     |
|-------------------|-------------|-------------|-------------|---|---------------------|
| ITEM              | QTY<br>-041 | QTY<br>-045 | QTY<br>-047 | PART NUMBER   | DESCRIPTION         |
| 1                 | X           |             |             | D2580-041   | SKIDTUBE ASSEMBLY   |
| 2                 |             | X           |             | D2580-045   | SKIDTUBE ASSEMBLY   |
| 3                 |             |             | X           | D2580-047   | SKIDTUBE ASSEMBLY   |
| 4                 | 1           | 1           | 1           | D2500-1-190   | EXTRUSION           |
| 5                 |             |             | 16          | D2570   | BUSHING             |
| 6                 | 1           | 1           | 1           | D2576-3   | STEP                |
| 7                 | 20          | 24          | 25          | D2579   | SPACER              |
| 8                 | 16          | 16          | 8           | D2594-1   | PLUG                |
| 9                 | 16          | 16          | 8           | D2594-3   | O-RING              |
| 10                | 1           | 1           | 1           | D2596   | 205 WEB             |
| 11                | 1           | 1           | 1           | D2855   | AFT CAP             |
| 12                | 1           | 1           |             | D3564-5   | WEARSHOE            |
| 13                | 1           | 1           |             | D3564-9   | WEARSHOE            |
| 14                | 1           | 1           |             | D3564-11  | WEARSHOE            |
| 15                | 1           | 1           |             | D3564-13  | WEARSHOE            |
| 16                | 2           | 2           |             | D3566-1   | GASKET              |
| 17                | 1           | 1           |             | D3566-5   | GASKET              |
| 18                | 1           | 1           |             | D3566-13  | GASKET              |
| 19                |             |             | 1           | D4406-041   | WEARPLATE ASSEMBLY  |
| 20                |             |             | 1           | D4406-043   | WEARPLATE ASSEMBLY  |
| 21                | 50          | 50          |             | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or AELS-1032-130 | INSERT              |
| 22                | 50          | 50          |             | AN3C4A  | BOLT                |
| 23                | 2           | 2           | 2           | AN3-5A  | BOLT                |
| 24                |             |             | 8           | AN4-45A   | BOLT                |
| 25                | 50          | 50          |             | NAS1149C0332R   | WASHER (AN960C10L)  |
| 26                | 2           | 2           | 2           | NAS1149D0332J   | WASHER (AN960JD10L) |
| 27                |             |             | 8           | MS21042-4   | NUT (OR MS21042L4)  |

# **GENERAL NOTES:**

- MATERIAL: N/A
- FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3  
POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4.3.5.8) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: NONE
- WEIGHT: D2580-041 = 34.5 lbs  
D2580-045 = 34.5 lbs  
D2580-047 = 37.7 lbs
- WELDING PER DART QSI 004.
- INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-291.
- INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *10446*

RELEASED  
2011-08-29  
*W*

|            |   |  |              |
|------------|---|--|--------------|
| E          | ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1) | RF   | 11.06.21     |
| D          | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183   | PH   | 07.04.05     |
| C          | REDRAWN, INCLUDED DEO 9094/ 9097  | CP   | 98.08.26     |
| B          | AS MANUFACTURED   | DS   | 96.12.02     |
| A          | NEW ISSUE   | DS   | 96.09.16     |
| REV.       | DESCRIPTION   | BY   | DATE         |
| DESIGN     | <i>#</i>  | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | RF  |  |              |
| CHECKED    | <i>10</i>   | DRAWING NO.  | REV. E       |
| MFG. APPR. | <i>10</i>   | D2580  | SHEET 1 OF 8 |
| APPROVED   | <i>10</i>   | TITLE  | SCALE        |
| DE APPR.   | <i>10</i>   | 205 SKIDTUBE ASSEMBLY  | NTS          |
| DATE       | 11.06.21  | COPYRIGHT © 1996 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

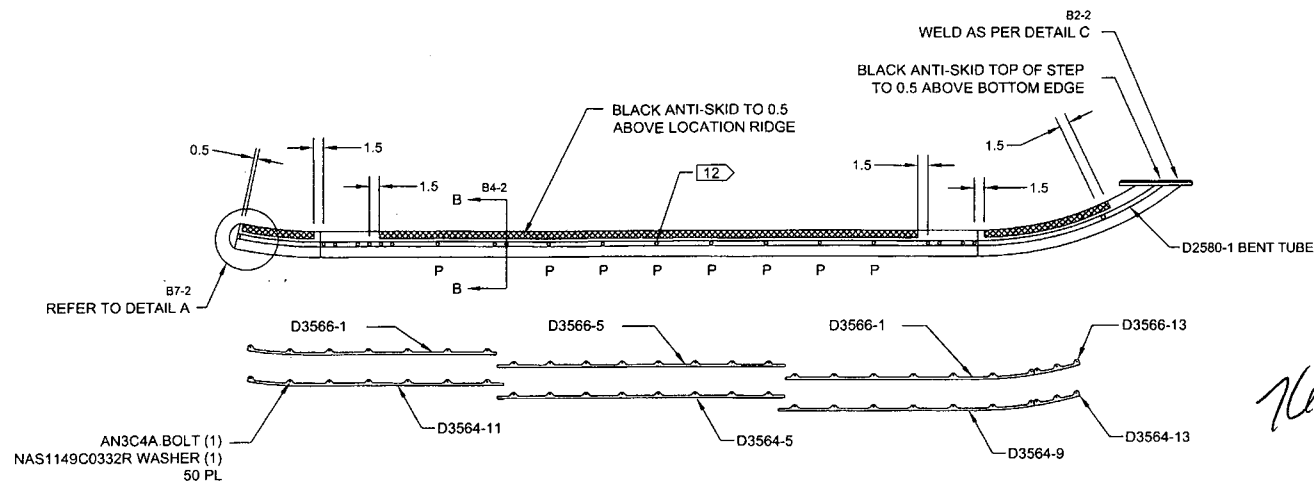
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

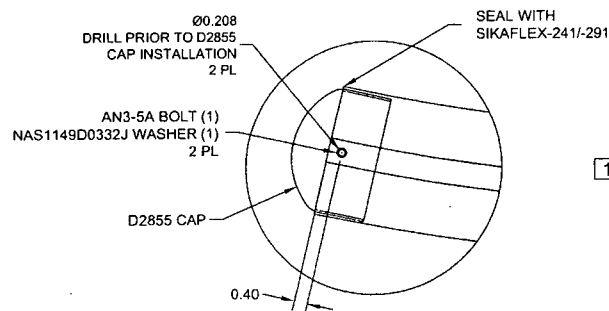
| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

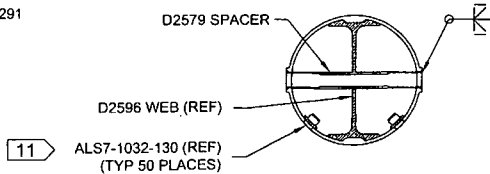


**D2580-041 ASSEMBLY DETAIL**

**DETAIL A**  
SCALE 5X

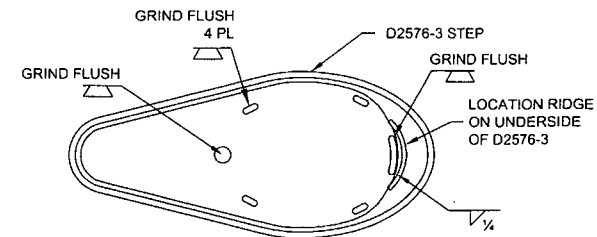


**SECTION B-B**  
SCALE 5X



- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
  2. INSERT D2579 SPACER (20 PLACES)
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

**DETAIL C**  
SCALE 5X



|  |               |  |              |
|--|---------------|--|--------------|
| DESIGN   | <del>4</del>  | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN  | RF            | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED  | <del>14</del> | DRAWING NO.                            | REV. E       |
| MFG. APPR.   | <del>14</del> | D2580                                  | SHEET 2 OF 8 |
| APPROVED   | <del>14</del> | TITLE                                  | SCALE        |
| DE APPR.   | <del>14</del> | 205 SKIDTUBE ASSEMBLY                  | NTS          |
| DATE   | 11.06.21      | COPYRIGHT © 1996 BY DART AEROSPACE LTD |              |
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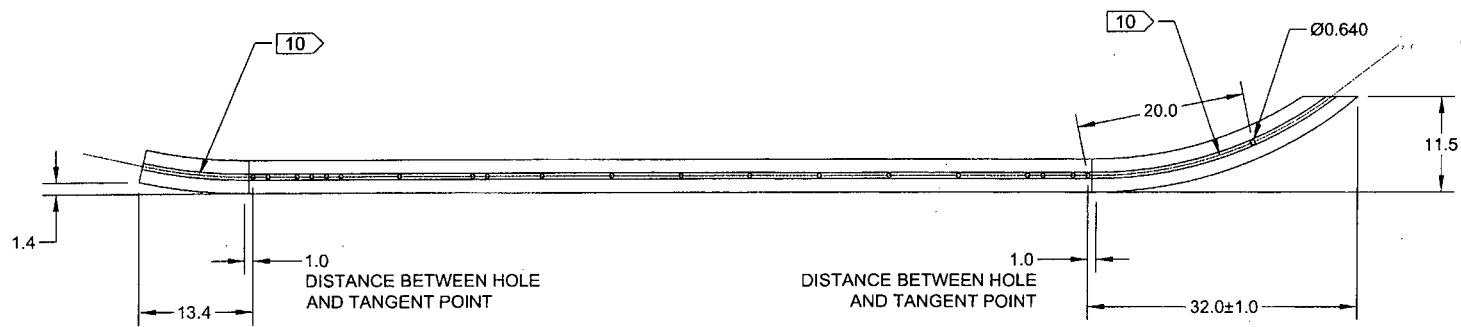
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



D2580-1 BENT TUBE  
(MAKE FROM D2580-101 TUBE)

76446  
RELEASED  
2011-08-28

|            |                    |   |              |
|------------|--------------------|---|--------------|
| DESIGN     | <i>[Signature]</i> | <b>DART AEROSPACE LTD</b>   |              |
| DRAWN      | RF                 | HAWKESBURY, ONTARIO, CANADA   |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.   | REV. E       |
| MFG. APPR. | <i>[Signature]</i> | D2580   | SHEET 3 OF 8 |
| APPROVED   | <i>[Signature]</i> | TITLE   | SCALE        |
| DE APPR.   | <i>[Signature]</i> | 205 SKIDTUBE ASSEMBLY   | NTS          |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries





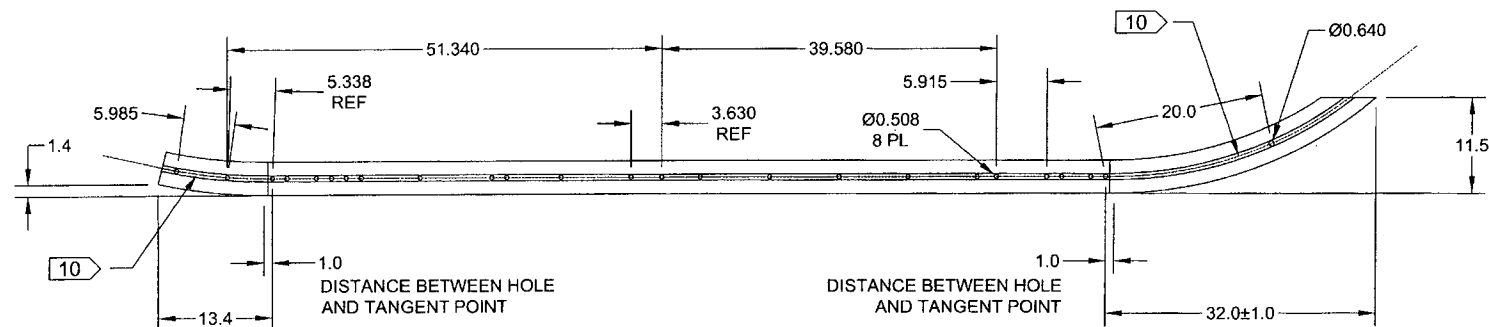
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



**D2580-5 BENT TUBE**  
(MAKE FROM D2580-101 TUBE)

76446

**RELEASED**  
2011-08-29

|            |                    |  |              |
|------------|--------------------|--|--------------|
| DESIGN     | <i>[Signature]</i> | <b>DART AEROSPACE LTD</b>  |              |
| DRAWN      | RF                 | HAWKESBURY, ONTARIO, CANADA  |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.  | REV. E       |
| MFG. APPR. | <i>[Signature]</i> | D2580  | SHEET 5 OF 8 |
| APPROVED   | <i>[Signature]</i> | TITLE  | SCALE        |
| DE APPR.   | <i>[Signature]</i> | 205 SKIDTUBE ASSEMBLY  | NTS          |
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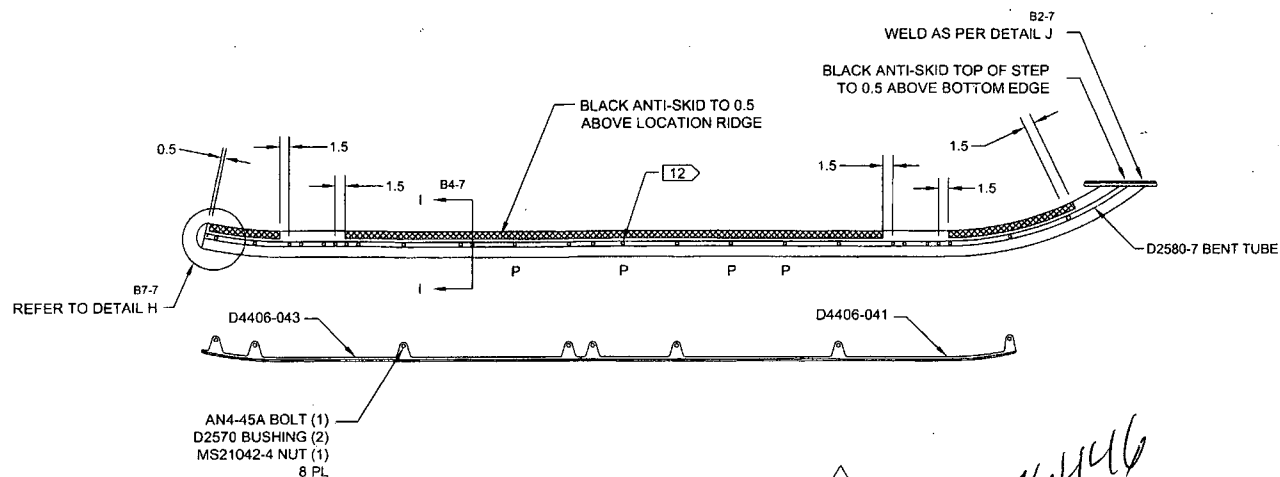
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

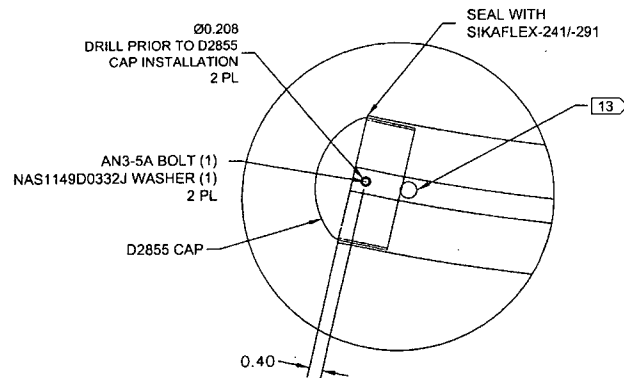


**D2580-047 ASSEMBLY DETAIL** E

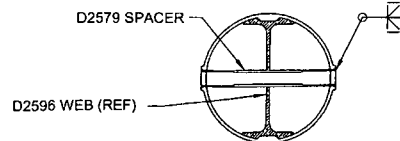
76446

**RELEASED**  
2011-08-28

**DETAIL H** C6-7  
SCALE 5X

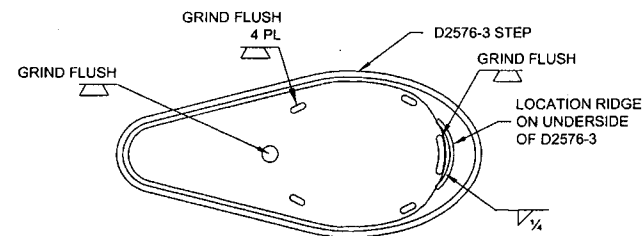


**SECTION I-I** D5-7  
SCALE 5X



- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
  2. INSERT D2579 SPACER (25 PLACES)
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

**DETAIL J** D3-7  
SCALE 5X



|            |          |   |              |
|------------|----------|---|--------------|
| DESIGN     | 4        | <b>DART AEROSPACE LTD</b>   |              |
| DRAWN      | RF       | HAWKESBURY, ONTARIO, CANADA   |              |
| CHECKED    | 10       | DRAWING NO.   | REV. E       |
| MFG. APPR. | 10       | D2580   | SHEET 6 OF 8 |
| APPROVED   | 10       | TITLE   | SCALE        |
| DE APPR.   | 10       | 205 SKIDTUBE ASSEMBLY   | NTS          |
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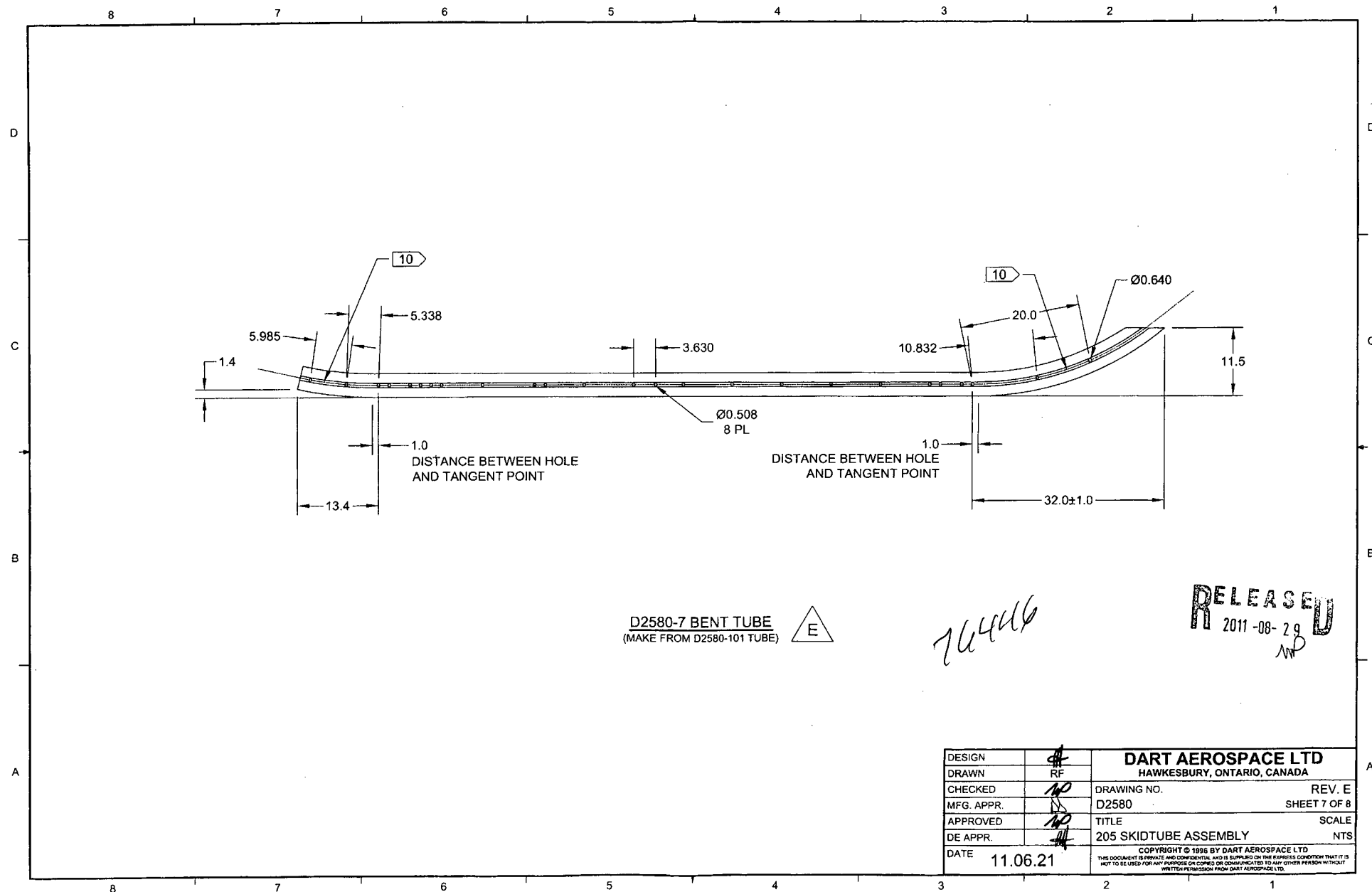
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



D2580-7 BENT TUBE  
(MAKE FROM D2580-101 TUBE)

E

|  |               |  |              |
|--|---------------|--|--------------|
| DESIGN   | <del>RF</del> | DART AEROSPACE LTD                     |              |
| DRAWN  | RF            | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED  | <del>RF</del> | DRAWING NO.                            | REV. E       |
| MFG. APPR.   | <del>RF</del> | D2580                                  | SHEET 7 OF 8 |
| APPROVED   | <del>RF</del> | TITLE                                  | SCALE        |
| DE APPR.   | <del>RF</del> | 205 SKIDTUBE ASSEMBLY                  | NTS          |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

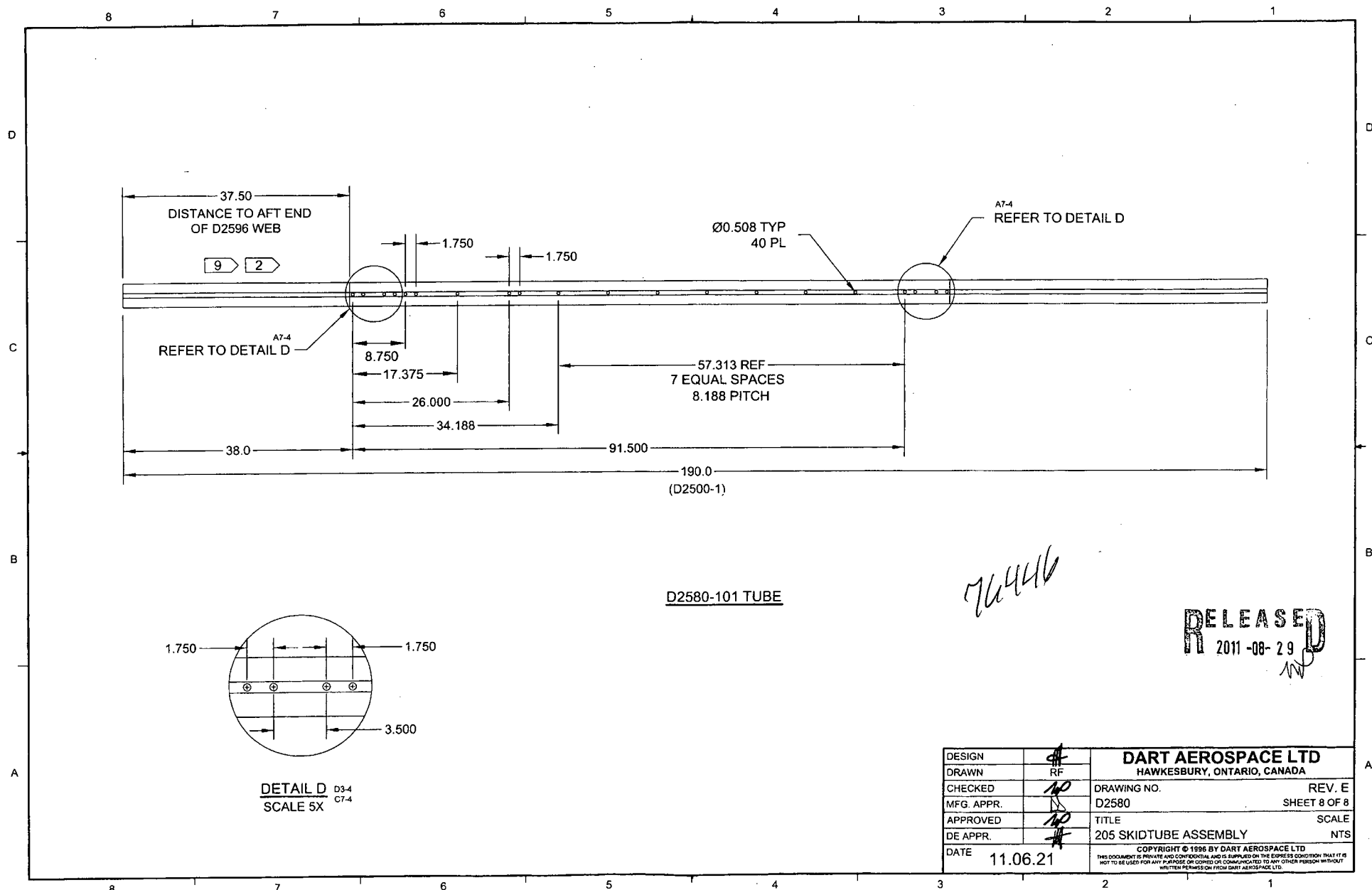
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries





| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries